

An Equation/Stoichiometry Activity

Assume 100.0 grams of each reactant and determine how many moles of each product will form. (If there are two reactants you will need to determine which is limiting).

1. zinc is added to hydrochloric acid

Zinc + hydrochloric acid yields zinc chloride + hydrogen

2. aluminum reacts with aqueous magnesium chloride

No reaction per activity series

3. aqueous calcium nitrate is added to aqueous sodium sulfate

Calcium nitrate + sodium sulfate \rightarrow calcium sulfate + sodium nitrate

4. nitric acid is added to aluminum hydroxide

nitric acid + aluminum hydroxide \rightarrow aluminum nitrate + water

5. nickel(III) chlorate is heated

nickel(III) chlorate \rightarrow nickel (III) chloride + oxygen

6. aluminum carbonate is heated

aluminum carbonate \rightarrow aluminum chloride + carbon dioxide

7. nitric acid decomposes

nitric acid \rightarrow dinitrogen pentoxide + water

8. gaseous chlorine is bubbled through a solution of sodium iodide

chlorine (diatomic) + sodium iodide \rightarrow sodium chloride + iodine

9. plumbic hydroxide decomposes

Lead (IV) hydroxide \rightarrow Lead (IV) oxide + water

10. sodium oxide reacts with water

sodium oxide + water \rightarrow sodium hydroxide

11. diphosphorous pentoxide reacts with water

diphosphorous pentoxide + water \rightarrow nitric acid

12. nickel(III) oxide is added to carbon dioxide

nickel (III) oxide + carbon dioxide \rightarrow nickel (III) carbonate

13. plumbic oxide reacts with diphosphorus pentoxide

lead(IV) oxide + diphosphorus pentoxide \rightarrow lead(IV) phosphate

14. sodium phosphate reacts with aqueous magnesium nitrate

sodium phosphate + magnesium nitrate \rightarrow sodium nitrate + magnesium phosphate

15. aluminum reacts with oxygen

aluminum + oxygen \rightarrow aluminum oxide